

CLAIMS

1. A modified modular polyketide synthase (PKS) comprising at least two modules, wherein said PKS has been modified to prevent its utilization of the native starter unit for said modular PKS.

5           2. The modified PKS of claim 1 wherein the ketosynthase (KS) catalytic domain of module 1 has been inactivated.

3. The modified PKS of claim 1 wherein said modules are modules of the DEBS PKS.

10           4. The modified of PKS of claim 2 wherein said modules are modules of the DEBS PKS.

5. The modified PKS of claim 1 which is a complete PKS.

6. A PKS gene cluster which encodes a modified PKS wherein said modified PKS has been modified to prevent its utilization of the native starter unit for said modular PKS.

15           7. The gene cluster of claim 6 wherein the ketosynthase (KS) catalytic domain of module 1 has been inactivated.

8. The gene cluster of claim 6 wherein said modules are modules of the DEBS PKS.

20           9. The gene cluster of claim 7 wherein said modules are modules of the DEBS PKS.

10. The gene cluster of claim 6 which encodes a complete PKS.

11. A recombinant host cell modified to contain the gene cluster of claim 6.

12. The host cell of claim 10 which is a *Streptomyces*.

13. The host cell of claim 10 which is free of any endogenous PKS activity.
14. A method to prepare a polyketide, which method comprises providing a thioester diketide substrate for the modified PKS of claim 1.
15. The method of claim 14 which is conducted in a host cell.
- 5 16. The method of claim 14 which is conducted in a cell free system.
17. A novel polyketide which has the structure shown as formula 6, 7 or 8 in Figure 2.